NATURAL GAS PRICE VOLATILITY: AN UPDATE

Iowa Utilities Board
September 2, 2003

The Iowa Utilities Board issued a white paper on June 3, 2003, on the potential for natural gas prices to be volatile during the winter of 2003-04. This paper provides an updated examination of the market factors discussed in that paper and a current analysis of potential prices for the coming winter.

Summary

In our June 3 white paper, the Board issued an alert that a confluence of conditions could add up to a very serious situation for the nation's natural gas customers. Positive developments have somewhat mitigated, though not eliminated, this risk. Less natural gas has been used for electric generation this summer because of cooler than normal weather in major U.S. natural gas markets. Natural gas storage, as a result, has recovered to nearer to normal levels. However, early, prolonged cold weather in major gas markets could overcome the higher than anticipated storage levels. Natural gas prices, for reasons discussed below, are still very likely to be significantly higher than customers have experienced in recent winters.

I. Market Forces that Impact Natural Gas Prices - Updated

Demand Factors

The main factor that impacts demand is weather, including weather in the non-heating season. Many of the electric generating units used in the United States for intermediate and peaking purposes (principally, air conditioning on warm days) use natural gas for fuel. Warmer than normal weather means that those generating units are running more, using more natural gas—supplies that might otherwise be used to increase natural gas storage inventories. Thus far, the Eastern United States has not experienced any prolonged heat waves this summer. This has enabled storage injections to increase at a record pace. The increased pace of injections is especially important because storage levels were at record lows at the end of the heating season.

Economic activity is also a major factor that determines the demand for natural gas. While the overall economic data over the past few months has been encouraging, the economy has not expanded at a rate that has resulted in a significant increase in commercial and industrial consumption of natural gas.

Price of alternate fuels is the other major factor that affects the demand for natural gas. In many industrial processes, the manufacturer can either burn natural gas or some type of oil. Earlier in the year, the price differential between natural gas and petroleum products caused many manufacturers to switch from natural gas to some type of petroleum product. Unfortunately, the price of crude oil (the source of petroleum products) is over $30/ barrel at this time, raising the price of fuel to manufacturers. The price of natural gas has been stable or declining, causing several manufacturers to switch back to natural gas. This has resulted in increased demand for natural gas.

Supply Factors

The supply factor that most influences the price of natural gas is storage inventories. Low levels of storage can cause perceptions of shortage that lead to higher prices. Storage levels were at record lows after the most recent heating season. The last Energy Information Administration (EIA) *Weekly Natural Gas Update* (*Update*) prior to our June 3 white paper reported that natural gas inventories as of Friday, May 23, were 31.9 percent below the 5-year average. Injections into storage this summer have been at record levels. As a result, the August 21 EIA *Update* showed that natural gas inventories as of Friday, August 15, had improved to 7.4 percent below the 5-year average. Even though injections have been at record levels and inventories have improved, storage levels are still below average. This does not mean that necessary storage levels will not be achieved before the coming heating season, but it does mean that injections into storage will need to be maintained at a high level.

Most of the country is nearly through the summer cooling season, but a late season heat wave could hurt efforts to build natural gas inventories. Another weather factor that could hurt efforts to increase inventories is hurricanes in the Gulf Coast production region. The hurricane season is just beginning and a major storm in that region could result in decreased production and smaller amounts injected into storage.

There are other factors that impact supply such as the number of drilling rigs exploring for natural gas and increased supplies of liquefied natural gas (LNG), but they tend to affect longer-term supplies and prices. Because this update is examining supplies and prices for the coming winter, these other supply factors will not be discussed here.

II. Current and Future Prices

Market prices for natural gas have declined since our earlier report was released. In June of this year, the winter futures contract prices of natural gas were approximately $6.50-6.75/Mcf. These prices have declined by approximately $1/Mcf. Much of this decrease can be attributed to the increase in storage levels. Even though there are several weeks to go before the heating season begins and many things could prevent injections into storage, analysts and market participants are starting to believe that storage levels will probably be adequate for the coming winter. If current injection rates are maintained, this should help stabilize or even decrease prices for natural gas.

Unfortunately, price declines from levels seen a few months ago do not mean that consumers will see heating bills this winter that are comparable to recent years. Even though market prices have declined, they are still significantly above historical levels. Additionally, the price of the gas that has been injected into storage the past few months is much higher than in past storage seasons. Iowa’s utilities commonly count on storage for 25-30 percent of their natural gas supply in a winter with normal weather. That portion of utility supplies will be approximately 40-50 percent more expensive this winter. Coupling those price increases with market expectations of higher winter gas commodity prices (compared to market expectations this time last year) and price increases for pipeline transportation[1] and utility delivery services[2], consumers should expect to see significantly higher prices this coming winter. An early, prolonged cold spell in major natural gas markets would renew our earlier expectations of the potential for an even more serious situation for natural gas consumers.

III. Actions Taken by Iowa's Investor-Owned Natural Gas Utilities

The Board maintains close contact with natural gas local distribution companies (LDCs) on issues related to customer bill volatility. Utility actions taken this year include:

1. Each investor-owned utility has developed a hedging plan to manage the risk of customer bill volatility. Board staff has met with each company to discuss its plan and staff continues to have follow-up discussions. Utilities are reminded to notify the Board of changes to hedging plans.
2. The investor-owned utilities have communication plans in place to warn customers of potentially high heating bills this winter. These plans, with input by Board staff, have begun and are ongoing.
3. Each utility has a Board-approved energy efficiency plan and has doubled its annual budget for low-income weatherization plans. The Board has encouraged the utilities to prepare for an increased level of requests from customers for energy audits.
4. Interstate Power has initiated a fixed price tariff, which will be available this winter. In a pilot program recently approved by the Board, Interstate will offer a guaranteed bill program for heating customers that elect to participate. The WorryProof Bill program will fully mitigate bill volatility, at a price, for heating customers that elect to participate. The price paid by participants will include an insurance and administration fee and the overall price paid will almost certainly be different than that paid by other gas customers.

In conclusion, the Board will continue to monitor storage levels and any other factors that would affect the price of natural gas this coming winter. The Board is generally satisfied with the investor-owned utilities' risk management activities, as exercised through their hedging plans, and with their communication plans. The Board believes many, and hopefully most, customers are aware of the potential for high natural gas bills this coming winter. Market conditions have improved since June, but there are several weeks to go before the start of the heating season. Once that season begins, colder than normal conditions could negate any progress the industry and the markets have made over the past few months. The Board will provide further updates on natural gas issues over the next several months, as conditions warrant.

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[1] Northern Natural Gas, a MidAmerican Energy Holdings Company, provides pipeline delivery services to many Iowans through LDCs. On May 1, 2003, Northern filed with the Federal Energy Regulatory Commission a request for increased rates. The Board believes that a double-digit percentage increase (more than 10 percent) is likely as of November 1, 2003.

[2] Iowa's three largest investor-owned LDCs have received rate increases in the last 12 months: MidAmerican Energy, 10.2 percent; Aquila, Inc., 13.9 percent; and Interstate Power and Light Company, 22.47 percent. These percentages are for an average residential customer.